

# Python Programming for 6th Graders

Course Overview:

Duration: 8 Weeks (2 classes per week, 1 hour each)

Goal: Learn basic Python by building games, stories, and projects.

## Week 1: Getting Started

### Class 1: Introduction to Python & Programming

- What is programming?
- Where do we use Python?
- Install Python or use Replit/Trinket
- Print: `print('Hello, World!')`

### Class 2: Variables & Text

- What are variables?
- Data types: strings, numbers
- Fun text with variables
- Project: Name tag generator

## Week 2: Numbers & Input

### Class 3: Numbers & Math

- Addition, subtraction, multiplication, division
- Simple calculator

### Class 4: Taking Input

- Using `input()`
- Calculator with user input

## Week 3: If Statements

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## Class 5: If Statements

- Make decisions with if
- Is it hot or cold?

## Class 6: Comparisons & Guessing Game

- Comparisons: ==, !=, <, >
- Project: Number guessing game

## Week 4: Loops

### Class 7: while Loops

- Repeat until condition
- Looping guessing game

### Class 8: for Loops & Ranges

- Counting loops
- Project: Multiplication tables

## Week 5: Lists & Collections

### Class 9: Lists

- Favorite foods list
- Access/change items

### Class 10: Looping Through Lists

- for loop with lists
- Project: Birthday gift list

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## Week 6: Functions

### Class 11: Functions

- What are functions?
- Creating and using functions

### Class 12: Mini Projects

- Combine topics in a fun project:
  - Magic 8-ball
  - Calculator 2.0
  - Choose Your Own Adventure

## Week 7: Turtle Graphics

### Class 13: Meet Turtle

- Drawing lines and shapes with Turtle

### Class 14: Color & Patterns

- Colored spirals and stars

## Week 8: Final Projects & Celebration

### Class 15: Build Final Project

- Choose your own final project

### Class 16: Show & Tell

- Present projects
- Celebrate and receive certificates!